

# XR1200 WASH + CTO



User's Manual rel 1.0 **GB**

D.T.S. Illuminazione s.r.l. - ITALY  
<http://www.dts-lighting.it>



The Lighting Company

Made in Italy

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## 1- SYMBOLS

Graphic symbols used on this manual:



THIS SYMBOL INDICATES A HOT SURFACE



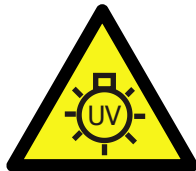
THIS SYMBOL INDICATES ELECTRIC SHOCK RISK



THIS SYMBOL INDICATES GENERAL RISK



THIS SYMBOL MEANS "DO NOT PLACE THE UNIT ON INFLAMMABLE SURFACES"



THIS SYMBOL MEANS "RADIATION FROM THIS LAMP CAN CAUSE DAMAGE TO EYES AND SKIN"



THIS SYMBOL INDICATES THE MINIMUM DISTANCE TO BE KEPT BETWEEN THE DEVICE AND THE LIT OBJECT

## 2- GENERAL WARNING

Read the instruction contained in this user manual carefully, as they give important information regarding safety during installation, use and maintenance.

The device is not for domestic use and must be installed by a qualified electrician or experienced person.

Always disconnect the device from the mains before replacing the lamp.

The lamp must be replaced if it has been damaged or deformed by prolonged use or overheating.

The device must always be equipped with an efficient ground connection.

## 3- GENERAL WARRANTY CONDITIONS

The unit is guaranteed for 36 months from the date of purchase against manufacturing material defects.

## **4- TECHNICAL FEATURES**

The XR1200 WASH + CTO is a moving head fitted with a Philips MSR Gold 1200W Fastfit discharge lamp (95.000 Lumens) combined with a dichroic parabolic reflector.

The XR1200 WASH + CTO incorporates motorized zoom (20°- 45°), rotating indexable beam shaper (0°-180°), frost filter, CMY colour generation system, linear CTO, colour wheel with linear selection for perfect 2-colour beams (6 dichroic filters + 2 colour conversion filters 3.200°K and 5.600°K + open) and electronic ballast. The XR1200 WASH + CTO also includes a new Pan / Tilt locking system with recessed buttons. The XR1200 WASH + CTO is particularly suitable for all professional applications, both mobile (concerts, shows, tours, special events) and fixed (clubs and other venues), requiring a light with extremely luminous output capable of illuminating objects and large backgrounds with an endless variety of colours.

### **D.T.S. Product Code:**

**03.MW008.EB.L XR1200 WASH + CTO** •Electronic ballast 90-260V 50/60 Hz •Black finished

### **Lamp**

Lamp: Philips MSR Gold 1200 Fastfit;

Automatic switching on of lamp in case of accidental switching off;

Lamp on/off via DMX; reset via DMX.

### **Optical group**

27.000 Lux at 5 m (20°). Fresnel lens Ø 200 mm.

Borosilicate dichroic parabolic reflector

### **Zoom**

Motorized zoom (20°- 45°)

### **Dimmer / shutter / strobo**

Linear dimmer, Shutter, Strobe from 0,85 flash/sec to 10 flash/sec

Power saving mode (the lamp dims to 50% six seconds after shutter closure)

### **Colours**

CMY color generation system with 3 palettes + Linear CTO;

Colour wheel (6 colours + 2 colour conversion filters + open) with linear selection for perfect 2-colour beams; Color change with blackout sync

### **Effects**

Rotating and indexable beam shaper (0°-180°)

### **Pan / Tilt**

Pan 540° (2,9 sec.); Tilt 270° (1,8 sec.); 16-bit resolution;

8 selectable speed ranges (8 selectable pan/tilt speeds);

extremely smooth and precise movements even at the highest speeds;

Pan / Tilt locking system with recessed buttons;

Automatic Pan/Tilt repositioning in case of knocks;

### **17 DMX channels**

Internal operating system updatable via DMX

### **INTERFACE**

LCD backlit graphic display (128x64)

### **Connections**

4 XLR connectors (3-pole In and Out; 5-pole In and Out) by Neutrik

### **Power supply**

Electronic ballast: 90 - 260 V (50/60 Hz); power consumption: 1320 W

### **Thermal**

Operating ambient temperature: -10° / 40°

### **Weight**

38 Kg (Electronic Ballast)

## 4- TECHNICAL FEATURES

### Dimensions

Packaging Dimensions (LxWxH)

580 x 490 x 800 mm

Weight: 43 Kg

Unit Dimensions (LxWxH)

500 x 490 x 685mm

Weight: 38 Kg



## 5- ACCESSORIES

### As standard

- 1 x MSR Gold 1200 Fastfit lamp (already installed in the projector)
- 1 x POWERCON male cable connector (D.T.S. Code 0520P014)
- 1 x XLR 5 Pins male cable connector (D.T.S. Code 0508B028)
- 1 x XLR 5 Pins female cable connector (D.T.S. Code 0508B027)
- 2 x "C" Clamp GQUICK with "Fast Lock" connection 1/4 turn (max. load. 80Kg) (D.T.S. Code 0521A014)
- 1 x FROST filter (D.T.S. Code 0506V016)
- User's manual

### Optional (on request)

- Wireless DMX receiver card (D.T.S. Cpde 03.LA.012)
- "C" Clamp G60 black (max. load 50Kg) (D.T.S. Code 0521A004)
- "C" Clamp G60 chrome (max. load. 50Kg) (D.T.S. Code 0521A004.20)
- "C" Clamp GQUICK with "Fast Lock" connection 1/4 turn (max. load. 80Kg) (D.T.S. Code 0521A014)
- "C" Clamp G100 black / professional (max. load. 200Kg) (D.T.S. Code 0521A015)
- Omega clamp with "Fast Lock" connection 1/4 turn (D.T.S. Code 02K00467)
- Safety wire (3mm x 60 cm), ring spring catch, max. capacity load 60Kg (D.T.S. Code 0521A010)



## **6- IMPORTANT SAFETY INFORMATION**



### **6.1 Fire prevention:**

XR1200 WASH + CTO uses a Philips MSR Gold 1200 Fastfit lamp.

The use of any other alternative lamp is not recommended and will null and void the fixture's warranty.

-Never locate the fixture on any flammable surface.

-Minimum distance from flammable materials: 1 MT.

-Minimum distance from the closest illuminable surface: 2 MT.  12M 

-Replace any blown or damaged fuses only with one of identical value (16 A). Refer to the wiring diagram if there is any doubt.

-Connect the projector to mains power via a thermal magnetic circuit breaker.

### **6.2 Prevention of electric shock:**



-High voltage is present inside the unit. Unplug the unit prior to performing any function which involves touching the inside of the moving head, including lamp replacement.

-The level of technology present in the XR1200 WASH + CTO requires the assistance of specialised personnel for all servicing. Please refer to an authorised D.T.S. service centre.

-A good earth connection is essential for proper functioning of the projector.

-Never connect the unit without proper earth connection.

-The fixture should be located in places with a good air ventilation.

### **6.3 Protection against ultraviolet radiation:**



-Never turn on the lamp if any of the lenses, filters or ABS covering is damaged.

Their respective shielding functions will only operate efficiently if they are in perfect working order.

-Never look directly the lamp when it is on.

### **6.4 Safety:**



-The projector should always be installed with bolts, clamps and other tools that are capable of supporting the weight of the unit.

-Always use a second safety cable to sustain the weight of the unit in case of the failure of the main fixing point.

-The external surface of the unit, at various points, may exceed 70°C. Never handle the unit until at least 10 minutes have elapsed since the lamp was turned off.

-Always replace the lamp if any physical damage is evident.

-Never install the fixture in an enclosed area lacking sufficient air flow.

The ambient temperature should not exceed 40°C.

-A hot lamp may explode, so always wait for at least 10 minutes prior to attempting to replace the lamp.

-Always wear suitable hand protection when handling the lamp.



### **6.5 Level of protection against the penetration of solid and liquid matter:**



-The projector is classified as an ordinary appliance and its protection level against the penetration of solid and liquid matter is IP 20.

For outdoor use, D.T.S. recommend the use of the dedicated raincovers:

- Raincover for XR1200 base (top) (D.T.S. Code 03.MA010)
- Raincover for XR1200 base (bottom) (D.T.S. Code 03.MA009)

## 7- MOUNTING THE LAMPS

**Warning: Switch off the unit before replacing the lamp.**



Philips MSR Gold 1200 Fastfit  
 Power 1200W  
 Luminous flux 95,000 lm  
 Colour temperature 6.300°K  
 Lampbase PGJX50  
 Rated life 750 hours

1) Using a screwdriver, loose the 3 screws A, B, C, (photo 1) and remove the metal cover .



Photo 1

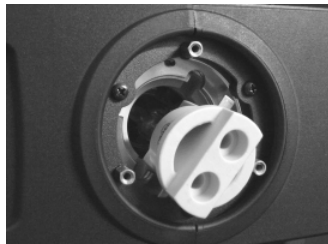


Photo 2

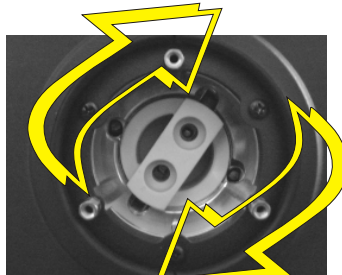


Photo 3

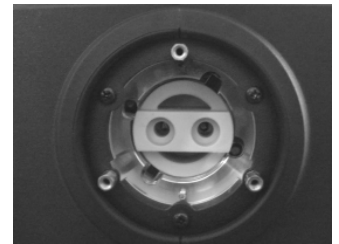


Photo 4

2) Insert the lamp (photo 2).

3) Rotate the lamp 1/4 turn clockwise (photo 3 and 4).

The lamp used on XR1200 WASH + CTO is made in quartz glass and should be handled with care. Always follow the instructions supplied in the lamp's packaging. Never touch the glass directly but use the tissue provided in the lamp's packaging. The PGJX50 lamp socket is not symmetrical. DO NOT USE UNDUE FORCE ON THE GLASS.

In case of difficulty, read again the instructions and repeat the procedure.

4) Replace the metal cover and tighten the screws A, B, C, which were previously removed.

**WARNING: Never look directly at the lamp when it's lit.**

**Discharge lamps emits UV rays; radiation from this lamp can cause damage to eyes and skin.**



### 7.1 Lamp alignment

Attention: we recommend to align the lamp in the optical system to avoid overheating of the dichroic filters and other components inside the unit. The lamp alignment is also essential to obtain the maximum uniformity and luminous performance by the projection.

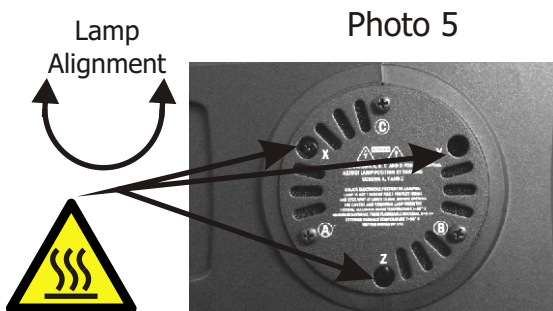
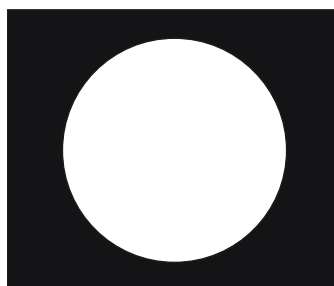


Photo 5

Normal



Hot Spot



1) Mount the fixture in an orientation so that it may be squarely projected onto a smooth white surface no less than 3 meters away. 2) Using a console or the menu system, focus an open (white) beam onto the surface and observe the beam. 3) Using a phillips-head screwdriver, rotate the 3 adjusters X, Y and Z (photo 5) until you achieve a uniform flat field.

When the lamp is correctly optimized, you will have an evenly projected light beam, with no shadows or zones which are brighter than others.



## **8- VOLTAGE AND FREQUENCY**

The XR1200 WASH + CTO with electronic ballast can operate at 90-260 V 50 or 60 Hz.

## **9- INSTALLATION**

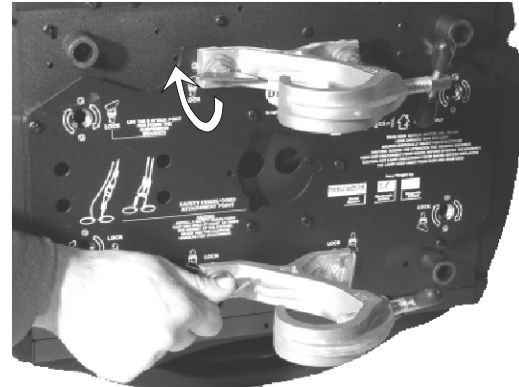
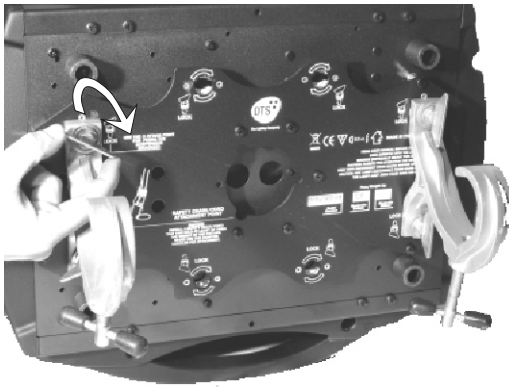
XR1200 WASH + CTO may be either floor or ceiling mounted.

For floor mounting installations, the XR1200 WASH + CTO is supplied with four rubber mounting feet on the base.

For ceiling mounted installations, we recommend the use of appropriate clamps to fix the unit to the mounting surface.

The supporting structure from which the unit is hung should be capable of bearing the weight of the unit, as should any clamps used to hang it. The structure should also be sufficiently rigid so as not to move or shake whilst the XR1200 WASH + CTO is moving.

Eight quarter turn fast locks placed on the base of the units, allows by using the two fast lock C clamps provided in the box, to fix the unit in any position.

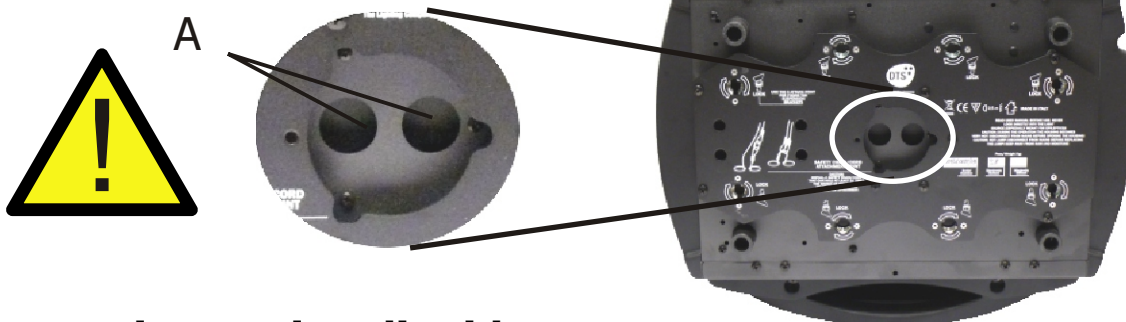


### **9.1- Safety cable**

We recommend the use of a safety cable or chain connected to the XR1200 WASH + CTO and to the suspension truss in order to avoid the fixture accidentally falling should the main fixing point fail.

Make sure that the iron cable or chain can bear the weight of the entire unit.

You may attach the safety chain to the two holes (A) located on the base of the fixture, as shown in the picture below.



### **9.2- Protection against liquids**

The projector contains electric and electronic components which should under no circumstances come into contact with oil, water or any other liquid.

The proper unit functioning would be compromised should this occur.

### 9.3- Movement

The projector has a maximum movement of 540° for Pan and 270° for Tilt. Do not place any obstructions in the path of the projector's movement.



#### WARNING

Do not place any object in the path of the projector's movement



### 9.4- Risk of fire

Each fixture produces heat and must be installed in a well-ventilated place. The minimum recommended distance from flammable material is 1 MT.



Minimum distance from the object being illuminated is 2 MT. 12M

### 9.5- Forced ventilation

You will note, on inspection, that the unit features various air inlets and cooling fans located on both the base and head of the fixture. These should, under no circumstances, be blocked or obstructed whilst the projector is in operation.

Doing so could cause the fixture to seriously overheat thereby compromising its proper operation.

### 9.6- Ambient temperature

The projector should never be installed in places that lack a constant air flow. The ambient temperature should not exceed 40°C.

## 10- MAINS CONNECTION

XR1200 WASH + CTO with electronic ballast operate at 90-260V 50/60 Hz.

Prior to connecting the unit to your mains supply, ensure that the model in your possession correctly matches the mains supply available.

For connection purposes, ensure that your plug is capable of supporting 8 amps at 230V or 16 amps at 100-120V.

Strict adherence to regulatory norms is strongly recommended.



Electronic ballast  
90-260V 50/60 Hz

### 10.1- Protection

The use of a thermal magnetic circuit breaker is recommended for each XR1200 WASH + CTO. A good earth connection is essential for the correct operation of the projector.



## 11- DMX SIGNAL CONNECTION

The unit operates using the digital DMX 512 (1990) signal. Connection between the mixer and the projector or between projectors must be carried out using a two pair screened  $\varnothing$  0.5 mm cable and a CANNON XLR 5 or 3 pins connector.

Ensure that the conductors do not touch each other. Do not connect the cable ground to the XLR chassy. The plug housing must be isolated. Connect the mixer signal to the DMX IN projector plug and connect it to the next projector by connecting the DMX OUT plug on the first projector to the DMX IN plug of the second one.

In this way, all the projectors are cascade connected.

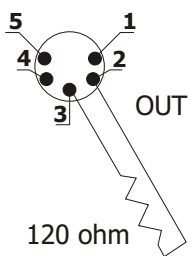
NB. If the display showing the DMX address flashes, then one of the following errors has occurred:

- DMX signal not present
- DMX address not valid
- DMX reception problem

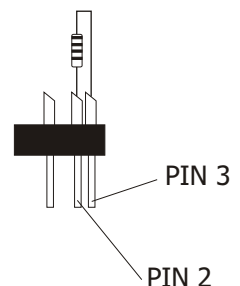


For Installations where long distance DMX cable connections are needed, we suggest to use a DMX terminator.

The DMX terminator is a male XLR 3-5 pins connector with a 120 ohm resistor between pin 2 and 3. The DMX terminator must be plugged into the last unit (DMX out panel connector) of the DMX line.



PLACE A 120 OHM RESISTOR BETWEEN PIN 2 AND 3 OF A MALE XLR CONNECTOR AND PLUG IT INTO THE DMX OUT PANEL CONNECTOR OF THE LAST UNIT CONNECTED TO THE DMX LINE



## **11.1-DMX Addresses**

XR1200 WASH + CTO has 17 DMX control channels.

Set the following addresses on the mixer:

Projector 1	A001	
Projector 2	A018	If you want to select the next projector, just add "17"
Projector 3	A035	
.....	A....	
projector 6	A086	

## **11.2-Selecting the DMX address**

- 1) Press the UP-DOWN key until you reach the required DMX channel. The numbers on the display will start to flash (but the new DMX address hasn't yet been set).
- 2) Press ENTER to confirm your selection. The numbers on the display will stop flashing and the projector is now setted to the new DMX address.

TRICKS:

If you keep pushed the UP or DOWN keys, the channels are calculated more quickly and you get a faster selection.

## **12- FIRMWARE UPDATING**



Warning:

This procedure requires a base knowledge of computer applications and Windows Hyperterminal program. **Please refer to an authorised D.T.S. service centre.**

To update the software version of the XR1200 WASH + CTO you will need:

D.T.S. RED BOX interface (D.T.S. Code 03.LA.008).

USB-DMX Driver for the D.T.S. RED BOX interface.

(The driver and the installation procedure are available in our web site [www.dts-lighting.it](http://www.dts-lighting.it)).

Updating the software version.

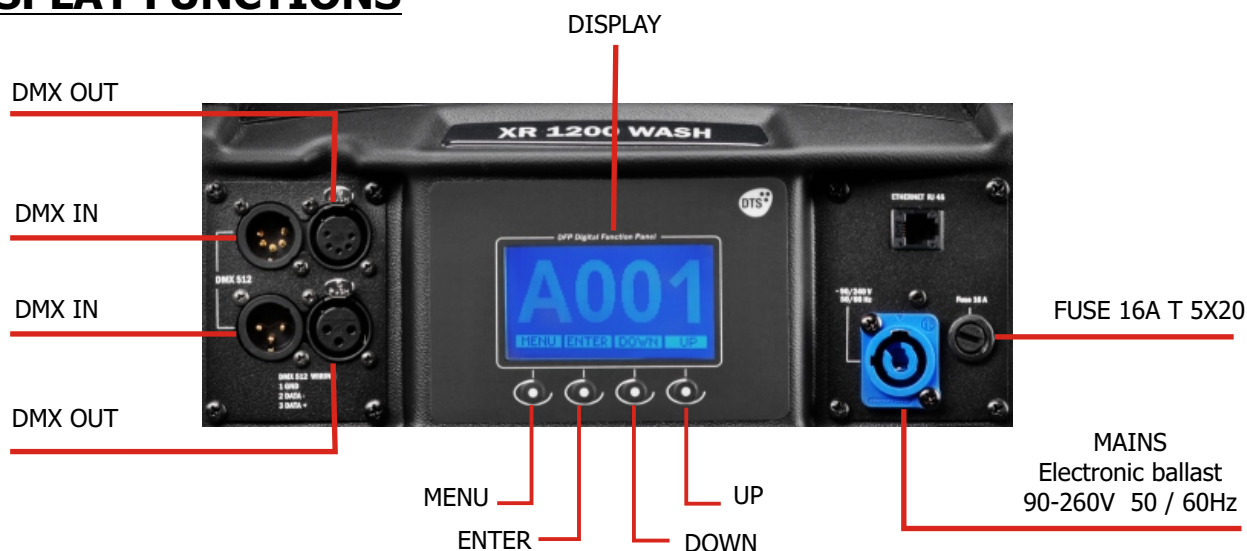
Please follow the procedure below to perform the update:

1. Install the D.T.S. RED BOX USB-DMX driver on the PC you will use to update the unit software.
2. Connect the D.T.S. RED BOX interface to the PC by using a USB cable.
3. Connect the D.T.S. RED BOX interface to the fixture by using a DMX cable.
4. Download the new software version into the unit by using Windows Hyperterminal program.

It will be possible to download the software from the reserved area of D.T.S. web site:


[Www.dts-lighting.it](http://Www.dts-lighting.it).

## 13- DISPLAY FUNCTIONS



### DISPLAY FUNCTIONS

The XR1200 WASH + CTO display panel shows all the available functions. Using these functions, it is possible to change some of the parameters and add some functions. Changing the D.T.S. setting can vary the functions of the unit so that it does not respond to the DMX 512 used to control it. Carefully follow the instructions below before carrying out any variations or selections.

NOTE: the symbol  shows which key has to be pushed to obtain the desired function.

### Software version: 13.10

#### Pan Direction

**PAN DIRECTION**  
This menu allows to set the Pan movement. Normal or Reversed.



Pan movement  
Normal or Reversed  
Default = Normal

 ENTER

#### Tilt Direction

**TILT DIRECTION**  
This menu allows to set the Tilt movement. Normal or Reversed.



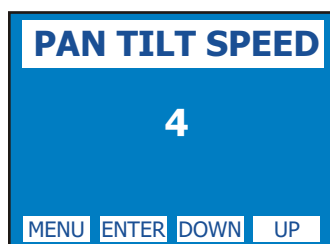
Tilt movement  
Normal or Reversed  
Default = Normal

 ENTER

#### Pan Tilt Speed

**PAN TILT SPEED**  
Pan Tilt Speed control (1-8)



Pan Tilt Speed control (1-8)  
Default = 4

 ENTER

## 13- DISPLAY FUNCTIONS

### Menu Up-Down Display

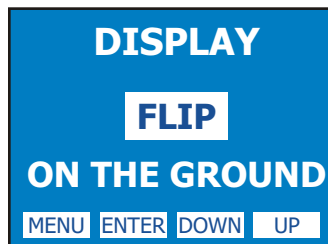
DISPLAY FLIP / STAND BY / CONTRAST

**Display Flip:**  
Reverses display's reading depending on the mounting position (on the ground or suspended).

**Display Standby:**  
To turn off the display (after 5 seconds)  
Or leave it always on.

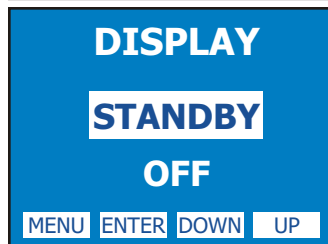
**Display Contrast:**  
Display contrast regulation (1-16)

ENTER Up-Down



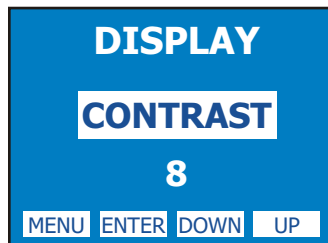
Display Flip  
ON THE GROUND (Default)  
SUSPENDED

ENTER



Display Standby  
OFF = Display Standby disabled (Default)  
ON = Display goes OFF after 5 seconds

ENTER



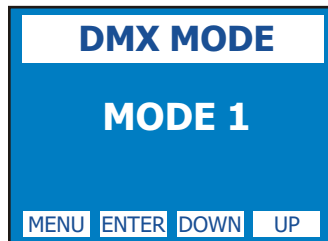
Display Contrast  
1-16 (Default = 8)

ENTER

### Menu Up-Down DMX Mode

DMX MODE  
To select DMX MODE 1 or 2

ENTER Up-Down



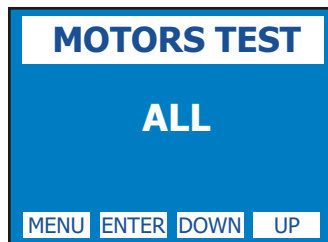
Mode 1 = 17 DMX channels, Pan&Tilt 16 bit (Default)  
Mode2 = same "RESET+LAMP" Channel as XR7 WASH unit  
17 DMX channels, Pan&Tilt 16 bit  
(Please check at page 23 for details)

ENTER

### Menu Up-Down Motors Test

TEST MODE  
Full test and single function test.

ENTER Up-Down



Motors Test  
ALL, PAN&TILT, DIMMER, SHUTTER, COLOUR WHEEL, CYAN, MAGENTA, YELLOW, CTO, EFFECTS, ZOOM

ENTER

### Menu Up-Down Lamp

LAMP  
Lamp always ON, always OFF, lamp ON-OFF selectable via DMX  
And lamp life time reset

ADJUST  
To adjust the lamp with no mixer connected.  
It's possible to set the parameters for PAN-TILT and ZOOM

ENTER Up-Down



BY DMX = ON / OFF via DMX (default)  
ALWAYS ON = Forced ON  
ALWAYS OFF = Forced OFF  
RESET COUNTER = Lamp life time reset

ENTER



LAMP ADJUST = To adjust the lamp with no mixer connected.  
It's possible to set the parameters for PAN-TILT and ZOOM

ENTER

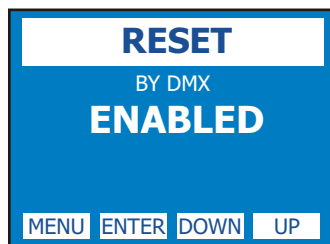


## 13- DISPLAY FUNCTIONS

### Reset

**RESET**  
Reset via DMX ENABLED / DISABLED  
and unit reset



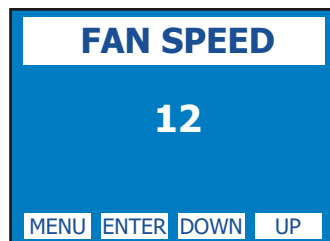
ENABLED = Reset via DMX enabled  
(Default)  
DISABLED = Reset via DMX disabled  
NOW = Unit motors reset

 ENTER

### Fan Speed

**FAN SPEED**  
Fan Speed control



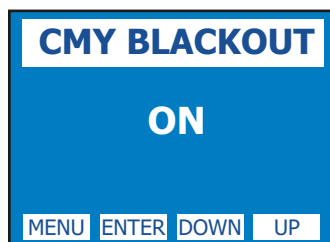
Fan speed control  
1-12 (Default = 12)

 ENTER

### CMY Blackout

**CMY BLACKOUT**  
CMY filters blades inserted at 100% if the dimmer remain closed for more than 5 seconds.  
By activating this function, it will be possible to reduce substantially any visible light reflection coming out from the front lens when dimmer is closed.



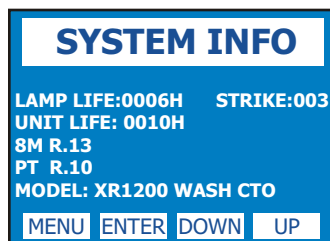
ON = Blackout enabled (Default)  
OFF = Blackout disabled

 ENTER

### System info

**SYSTEM INFO**  
Lamp life time, lamp strikes, unit life time, 8 motors card software version, Pan&Tilt card software version and unit model



**SYSTEM INFO**  
Lamp life time, lamp strikes, unit life time, 8 motors card software version, Pan&Tilt card software version and unit model

 ENTER

### Reserved

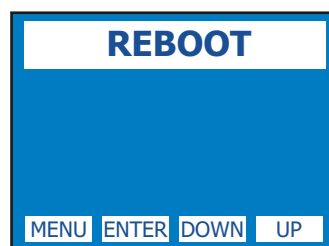
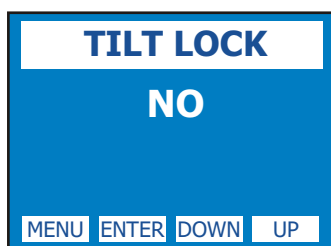
 

**RESERVED**  
Pan lock-Tilt lock  
Pan free-Tilt free  
System Reboot  
(Code = 100)



Pan Lock = Lock the Pan to the desired value  
Tilt Lock = Lock the Tilt to the desired value  
Pan Free = Remove power to Pan motor  
Tilt Free = Remove power to Tilt motor  
System Reboot = Unit Reboot without needing of turning OFF the unit

 ENTER

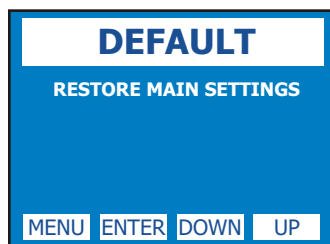


## 13- DISPLAY FUNCTIONS



Default

DEFAULT  
To restore main settings

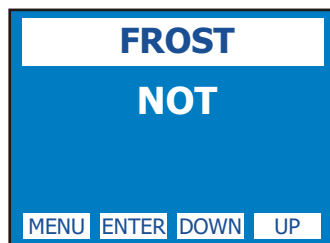


Default  
To restore main settings



Frost

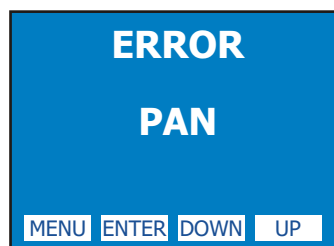
Frost  
To be set "YES" in case of FROST filter (D.T.S. Code 0506V016) provided as standard accessory in the box will be applied on the EFFECT Wheel of the unit. This menu affects the ZOOM excursion.



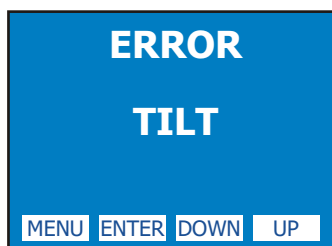
Frost  
Not = Not inserted (Default)  
Yes = Inserted



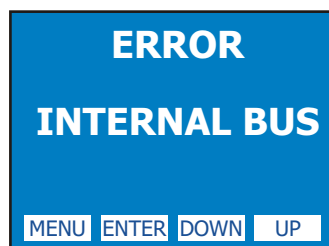
## 14- ERROR MESSAGES



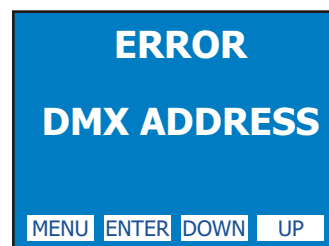
PAN REPOSITIONING  
ENCODER ERROR



TILT REPOSITIONING  
ENCODER ERROR



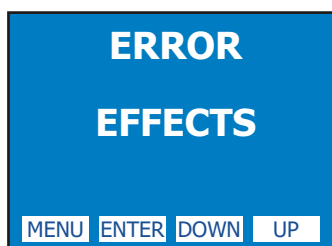
COMMUNICATION PROBLEM  
BETWEEN 8 MOTORS CARD  
AND PAN&TILT CARD



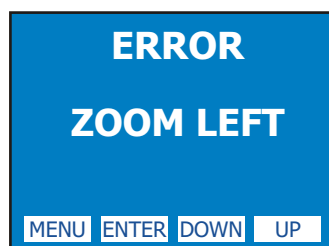
DMX ADDRESS ERROR



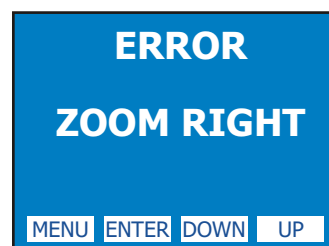
COLOUR WHEEL  
POSITION ERROR



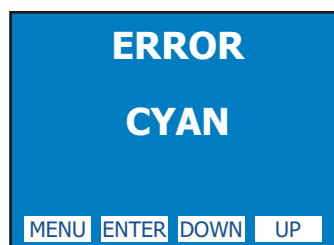
BEAM SHAPE WHEEL  
POSITION ERROR



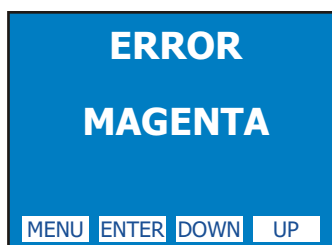
LEFT ZOOM SENSOR  
POSITION ERROR



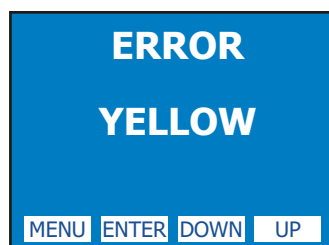
RIGHT ZOOM SENSOR  
POSITION ERROR



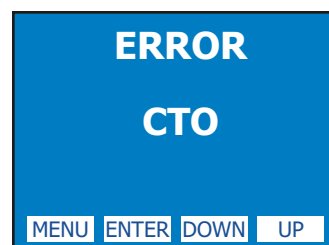
CYAN BLADE  
POSITION ERROR



MAGENTA BLADE  
POSITION ERROR



YELLOW BLADE  
POSITION ERROR



CTO FILTER  
POSITION ERROR

## 15- HIDDEN MENU

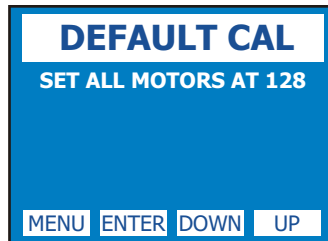
For technical personnel only.

To operate this menu:

- Connect the projector to the DMX controller (DMX signal must be correctly received).
- Reset the XR1200 WASH + CTO (reset from the menu, not from the DMX controller).
- While reset is running, press the MENU and ENTER keys at the same time.



ELECTRONIC  
CALIBRATION OF THE  
MOTORS

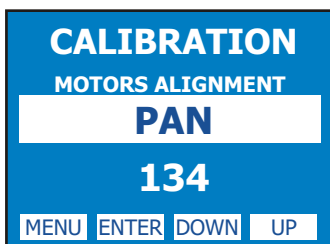


RESET EEPROM.  
RESET ALL SETTINGS  
TO VALUE 128

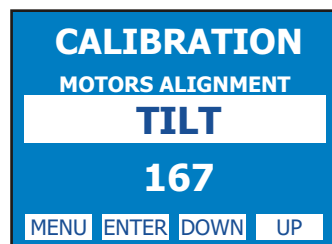


EXIT FROM HIDDEN  
MENU

## Calibration mode



PAN ALIGNMENT  
To align pan position



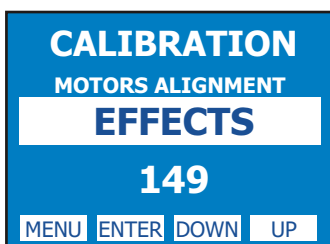
TILT ALIGNMENT  
To align tilt position



SHUTTER ALIGNMENT  
To align shutter blades



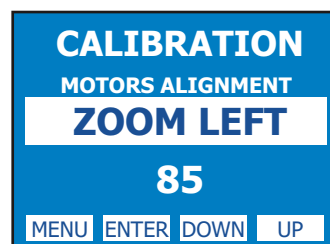
COLOUR WHEEL ALIGNMENT  
To align colour wheel



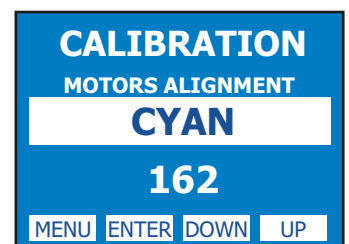
EFFECTS ALIGNMENT  
To Align Effects wheel



ZOOM RIGHT ALIGNMENT  
To align zoom right position



ZOOM LEFT ALIGNMENT  
To align zoom left position



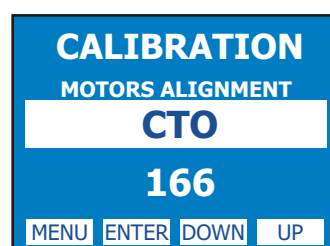
CYAN ALIGNMENT  
To align cyan blade



MAGENTA ALIGNMENT  
To align magenta blade



YELLOW ALIGNMENT  
To align yellow blade



YELLOW ALIGNMENT  
To align CTO filter

## **16- OPENING THE PROJECTOR HOUSING**

It is possible to inspect the inside of the projector by removing the cover as indicated below.

### **ATTENTION**

REMOVE MAINS POWER PRIOR TO ACCESSING THE PROJECTOR'S INTERNAL COMPONENTS.

- 1) Loosen the 3 (1/4 turn) screws which fix the head covers (photo 1) .
- 2) Once unscrewed, simply lift the covers to access the internal components (photo 2).

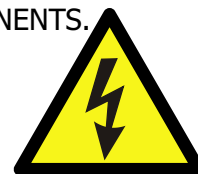


Photo 1



Photo 2



## **17- PERIODIC CLEANING**

### **17.1- Lenses and reflectors**

Even a fine layer of dust can substantially reduce the luminous output. Regularly clean all lenses and the reflector using a soft cotton cloth, dampened with a specialist lens cleaning solution.

### **17.2- Fans and air passages**

The fans and air passages must be cleaned approximately every 6 weeks. This periodic cleaning will depend of course, on the conditions in which the projector is operating. Suitable instruments for performing this type of maintenance are a brush and a common vacuum cleaner or an air compressor. If necessary, clean the fans and air passages more frequently.

## **18- PERIODIC CONTROLS**

### **Attention**

Disconnect mains power prior to removing the projector housing.



### **Lamp**

The lamp should be replaced if there is any visible damage or deformation due to heat. This will help to avoid the danger of the lamp exploding. Lamp lifespan is about 750 hours, then it is necessary to replace it.



### **Mechanical parts**

Periodically check all mechanical parts, gears, guides, belts, etc. for wear and tear, replacing them if necessary. Periodically check the lubrication of all components, particularly the parts subject to high temperatures. If necessary, lubricate with suitable lubricant, available from our D.T.S. distributor. Check the tension of the belts and adjust it if necessary.

### **Electrical components**

Check all electrical components for correct earthing and proper connection of all connectors; refasten them if necessary.

### **Fuse replacement**

Locate the fuse, which protects the lamp and electronics, in the base of the XR1200 WASH + CTO. Using a multimeter, test the condition of the fuse, replacing it with one of equivalent type (16 A) if necessary.

## 19- DMX PROTOCOL

### 17 CHANNELS MODE (DEFAULT)

1	PAN msb
2	PAN lsb
3	TILT msb
4	TILT lsb
5	SPEED MOVEMENT
6	DIMMER
7	SHUTTER
8	COLOUR
9	CYAN
10	MAGENTA
11	YELLOW
12	SPEED CMY / DIMMER
13	MACRO CMY / COLOUR
14	EFFECTS
15	ZOOM
16	RESET + LAMP
17	CTO

DMX CHANNEL	<b>1</b>	Parameter: <b>PAN msb</b>
-------------	----------	---------------------------

DMX CHANNEL	<b>2</b>	Parameter: <b>PAN lsb</b>
-------------	----------	---------------------------

DMX CHANNEL	<b>3</b>	Parameter: <b>TILT msb</b>
-------------	----------	----------------------------

DMX CHANNEL	<b>4</b>	Parameter: <b>TILT lsb</b>
-------------	----------	----------------------------

DMX CHANNEL	<b>5</b>	Parameter: <b>SPEED MOVEMENT</b>
-------------	----------	----------------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
<b>0-10</b>					<b>Standard</b>
<b>11-25</b>					<b>Fast movement</b>
<b>26-127</b>					<b>Vector mode from fast to slow</b>
<b>128-247</b>					<b>Variable time reaction to DMX signal (fast to slow)</b>
<b>248-255</b>					<b>Slow reaction time to DMX signal</b>

DMX CHANNEL	<b>6</b>	Parameter: <b>DIMMER</b>
-------------	----------	--------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
<b>0-7</b>					<b>Black-out</b>
<b>7-255</b>					<b>Proportional dimmer</b>

DMX CHANNEL	7	Parameter: <b>SHUTTER</b>
-------------	---	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-19					<b>Black-out</b>
20-39					<b>Open</b>
40-59					<b>Black-out</b>
60-79					<b>Strobe random speed</b>
80-89					<b>Strobe speed 1</b>
90-99					<b>Strobe speed 2</b>
100-109					<b>Strobe speed 3</b>
110-119					<b>Strobe speed 4</b>
120-129					<b>Strobe speed 5</b>
130-139					<b>Strobe speed 6</b>
140-149					<b>Flash open speed 1</b>
150-159					<b>Flash open speed 2</b>
160-169					<b>Flash open speed 3</b>
170-179					<b>Flash open speed 4</b>
180-189					<b>Flash closed speed 1</b>
190-199					<b>Flash closed speed 2</b>
200-209					<b>Flash closed speed 3</b>
210-219					<b>Flash closed speed 4</b>
220-227					<b>Colours / Macros in black-out</b>
228-233					<b>Pan / Tilt in black-out</b>
234-255					<b>Open</b>

DMX CHANNEL	8	Parameter: <b>COLOUR</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-12					<b>White</b>
13-25					<b>Colour 1 (3200° K)</b>
26-38					<b>Colour 2 (5600°K)</b>
39-51					<b>Colour 3</b>
52-64					<b>BiColour 3/4</b>
65-77					<b>Colour 4</b>
78-90					<b>BiColour 4/5</b>
91-103					<b>Colour 5</b>
104-116					<b>BiColour 5/6</b>
117-129					<b>Colour 6</b>
130-142					<b>BiColour 6/7</b>
143-155					<b>Colour 7</b>
156-168					<b>Bicolour 7/8</b>
169-181					<b>Colour 8</b>
182-197					<b>Bicolour 8/white</b>
198-200					<b>Right rotation speed 9 max.</b>
201-203					<b>Right rotation speed 8</b>
204-206					<b>Right rotation speed 7</b>
207-209					<b>Right rotation speed 6</b>



210-212					Right rotation speed 5
213-215					Right rotation speed 4
216-218					Right rotation speed 3
219-221					Right rotation speed 2
222-224					Right rotation speed 1 min.
225-228					Stop
229-231					Left rotation speed 1 min.
232-234					Left rotation speed 2
235-237					Left rotation speed 3
238-240					Left rotation speed 4
241-243					Left rotation speed 5
244-246					Left rotation speed 6
247-249					Left rotation speed 7
250-252					Left rotation speed 8
253-255					Left rotation speed 9 max.

DMX CHANNEL	9	Parameter: <b>CYAN</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-7					No effect
8-255					Proportional colour

DMX CHANNEL	10	Parameter: <b>MAGENTA</b>
-------------	----	---------------------------

DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-7					No effect
8-255					Proportional colour

DMX CHANNEL	11	Parameter: <b>YELLOW</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-7					No effect
8-255					Proportional colour

DMX CHANNEL	12	Parameter: <b>SPEED CMY / DIMMER</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-7					No Function
8-255					Variable speed from max to min

DMX CHANNEL	13	Parameter: <b>MACRO CMY / COLOUR</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
0-9					No Function
10-14					Macro 1
15-19					Macro 2
20-24					Macro 3
25-29					Macro 4
30-34					Macro 5
35-39					Macro 6
40-44					Macro 7
45-49					Macro 8
50-54					Macro 9
55-59					Macro 10
60-64					Macro 11
65-69					Macro 12
70-74					Macro 13
75-79					Macro 14
80-84					Macro 15
85-89					Macro 16
90-94					Macro 17
95-99					Macro 18
100-104					Macro 19
105-109					Macro 20
110-114					Macro 21
115-121					Macros rainbow wait = 0
122-128					Macros rainbow wait = 2
129-135					Macros rainbow wait = 3
136-142					Macros rainbow wait = 4
143-149					Macros rainbow wait = 5
150-156					Macros rainbow wait = 6
157-163					Macros rainbow wait = 7
164-170					Macros rainbow wait = 8
171-177					Macros rainbow wait = 9
178-185					Macros rainbow wait = 10
186-192					Full colours rainbow wait = 0
193-199					Full colours rainbow wait = 2
200-206					Full colours rainbow wait = 3
207-213					Full colours rainbow wait = 4
214-220					Full colours rainbow wait = 5
221-227					Full colours rainbow wait = 6
228-234					Full colours rainbow wait = 7
235-241					Full colours rainbow wait = 8
242-248					Full colours rainbow wait = 9
249-255					Full colours rainbow wait = 10

DMX CHANNEL	<b>14</b>	Parameter: <b>EFFECTS</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
<b>0-19</b>					<b>No effect</b>
<b>20-39</b>					<b>Frost inserted</b>
<b>40-255</b>					<b>Beam Shape</b>

DMX CHANNEL	<b>15</b>	Parameter: <b>ZOOM</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
<b>0-225</b>					<b>Proportional</b>

DMX CHANNEL	<b>16</b>	Parameter: <b>RESET + LAMP</b>
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IF DMX MODE = MODE 1 (DEFAULT)

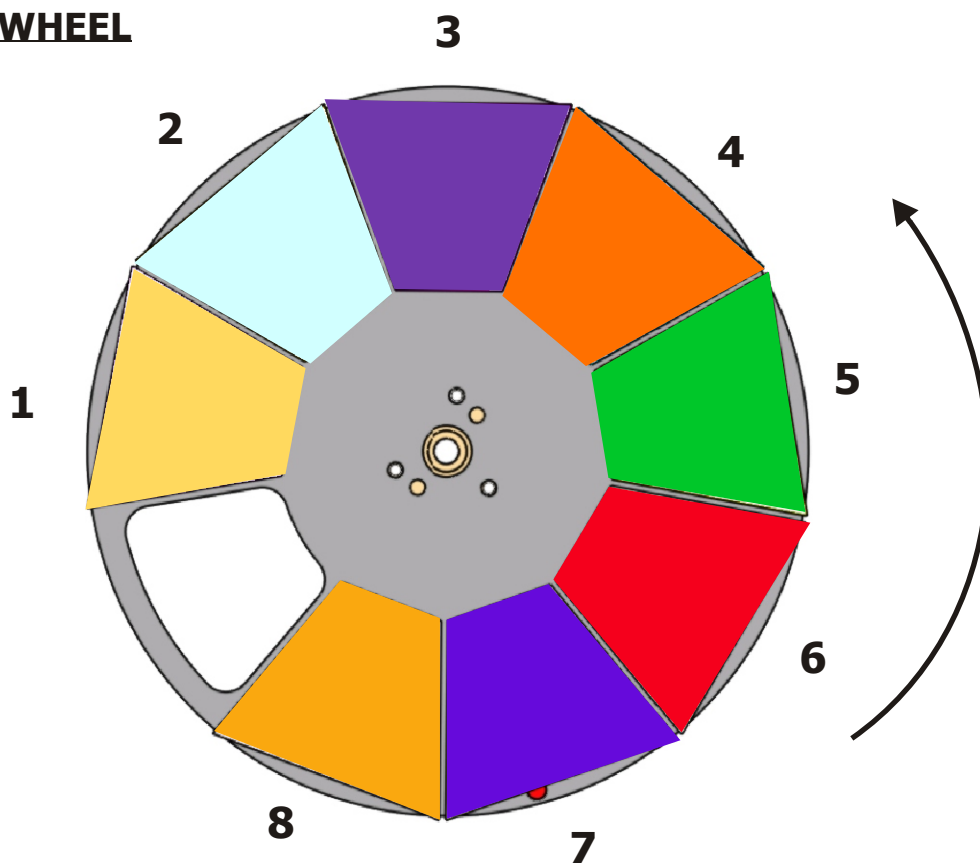
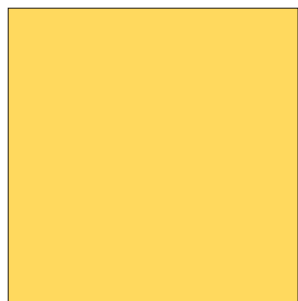
DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
<b>0-9</b>	<b>5</b>				<b>No Effect</b>
<b>10-60</b>	<b>30</b>				<b>Lamp OFF (Active after 3 seconds)</b>
<b>61-129</b>	<b>95</b>				<b>No Effect</b>
<b>130-179</b>	<b>154</b>				<b>Lamp ON (Active after 3 seconds)</b>
<b>180-200</b>	<b>190</b>				<b>No Effect</b>
<b>201-239</b>	<b>220</b>				<b>Internal Motors Reset</b>
<b>240-255</b>	<b>247</b>				<b>Total Reset</b>

IF DMX MODE = MODE 2 (SAME AS XR7 WASH) Please check at page 14 "DMX MODE" for details

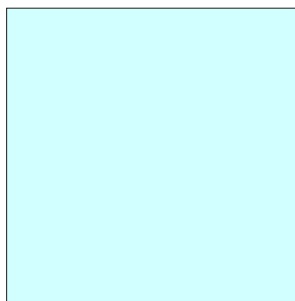
DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
<b>0-29</b>					<b>No effect</b>
<b>30-85</b>					<b>Lamp OFF (active after 3 seconds)</b>
<b>86 - 170</b>					<b>Internal motor Reset</b>
<b>171-235</b>					<b>Total Reset</b>
<b>236-255</b>					<b>Lamp ON (active after 3 seconds)</b>

DMX CHANNEL	<b>17</b>	Parameter: <b>CTO</b>
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DMX range Value	Mid point DMX value	Move range (degrees)	Mode	Option	Function
<b>0-7</b>					<b>No effect</b>
<b>8-255</b>					<b>Linear CTO</b>

20- COLOUR WHEEL**COL1**

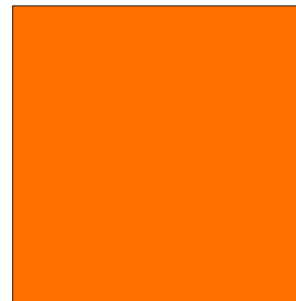
0507K004  
CONV.FILTER CTO  
TC3256

**COL2**

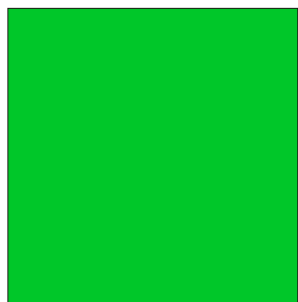
0507K003  
CONV. FILTER CTB  
DL542

**COL3**

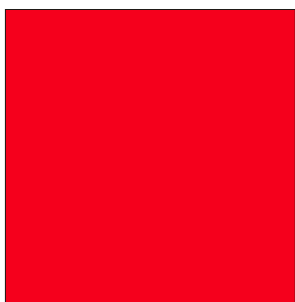
0507C046.D01  
WOOD SW 460

**COL4**

0507C051.D01  
ORANGE LW590

**COL5**

0507C042.D01  
GREEN WB5055

**COL6**

0507C047.D01  
RED LW 640

**COL7**

0507C041.D01  
DARK BLUE SW490

**COL8**

0507C053.D01  
AMBER LW 550

## 21- 8 MOTORS CONTROL CARD

### 8 MOTORS CONTROL CARD

J7 Magnetic Sensors  
Connector

Line 1 Brown:  
Line 2 Orange:

GND  
ORANGE  
BROWN  
VCC

J1 Internal DATA  
Communication  
Connector  
From J8 Pan & Tilt  
card

30 VDC

Fans

Fans

**Zoom motors**  
(BLACK)

**CTO**  
(DARK GREEN)

**Strobe**  
(YELLOW)

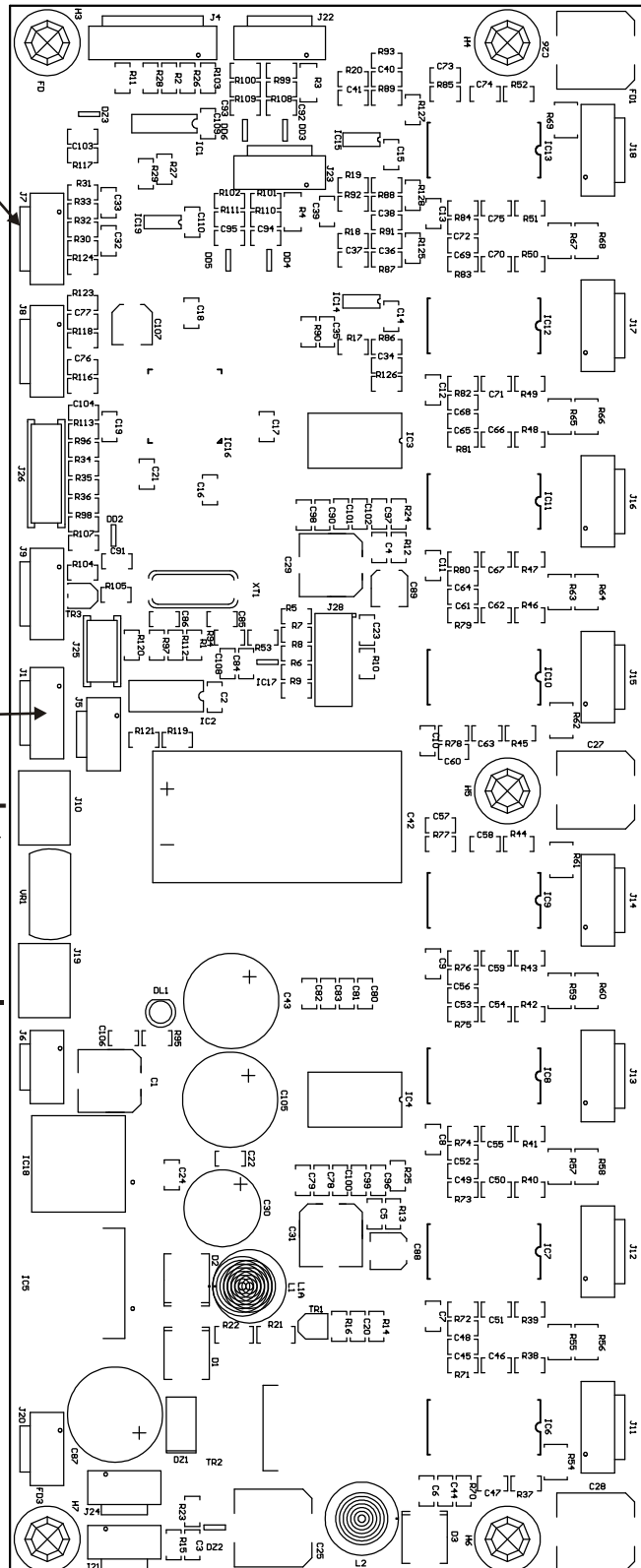
**Colour wheel**  
(PINK)

**Effects**  
(GREY)

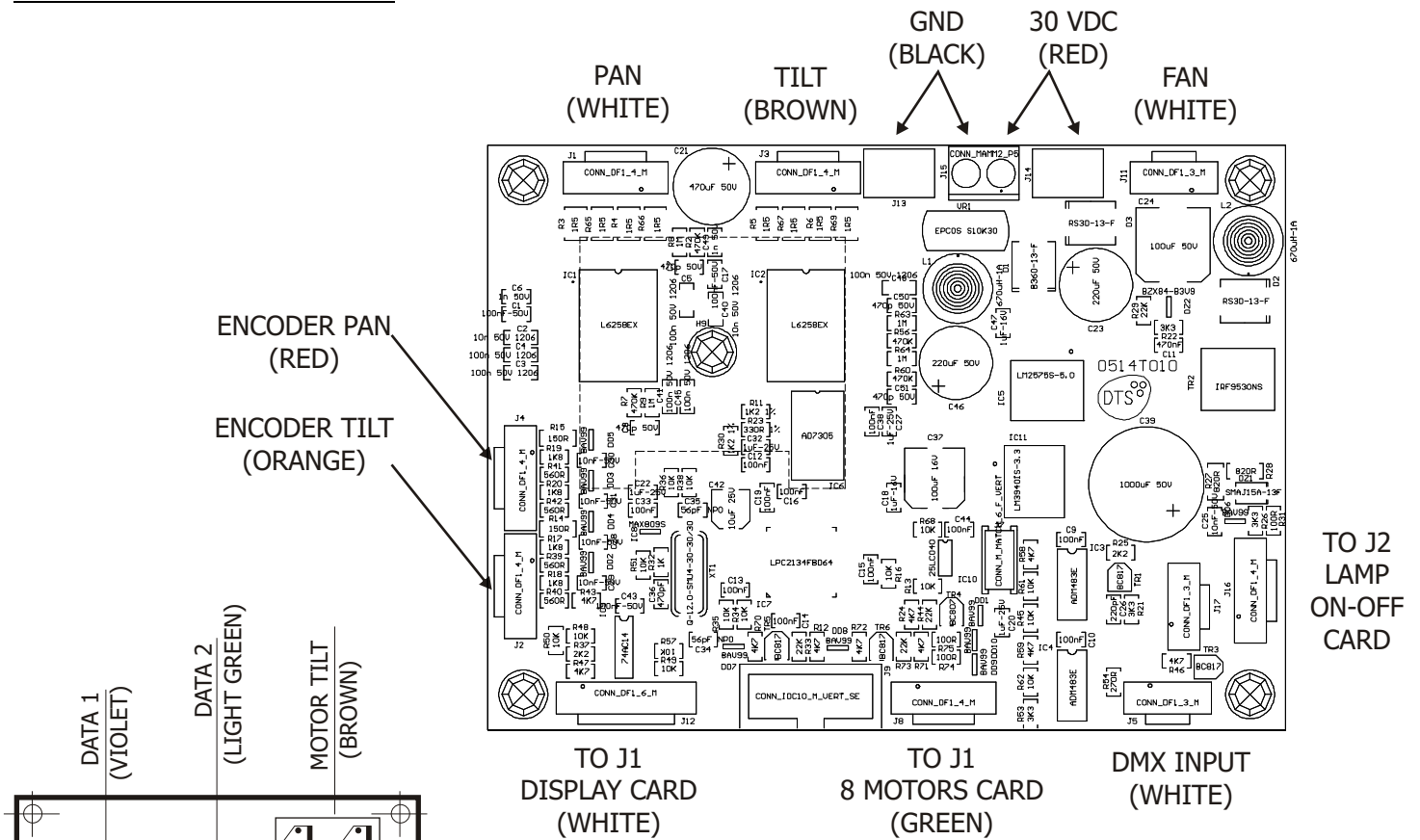
**Magenta**  
(LIGHT BLUE)

**Cyan**  
(GOLD)

**Yellow**  
(BLUE)

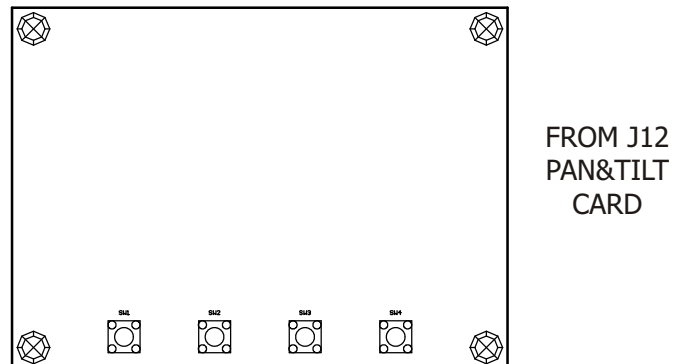


## 22-PAN & TILT CARD

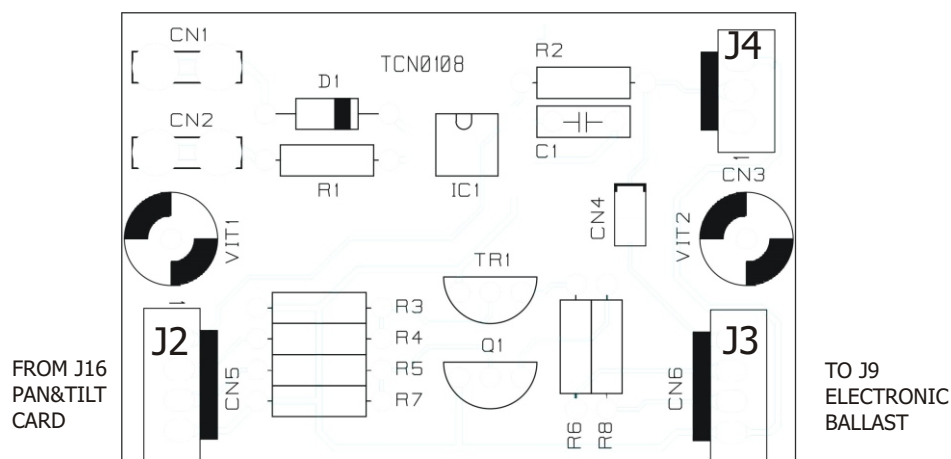


## 23-CABLES RESEND CARD

## 24-DISPLAY CARD



## 25-LAMP ON-OFF CONTROL CARD





**NOTES**

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**MADE IN ITALY**



**The Lighting Company**

**ISO 9001:2008**

D.T.S. quality system  
is certified to the  
ISO 9001:2008 standard



D.T.S. products are designed  
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